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Salts and permeability to acids.—BRENNER[13] finds by the use of a deplasmolitic method on red cabbage that neutral salts modify the toxicity of acids. The following table shows the killing concentration of HCl, four hours exposure, following plasmolysis by the various salts:

Plasmolytic agent	Critical conc. of HCl in mols.	H ion conc. of critical sol.
NaCl 2.2 per cent	1/1000	8.91×10^{-4}
KNO_3 3.75 per cent	1/800	1.29×10^{-3}
KCl 2.8 per cent	1/600	1.38×10^{-3}
K_2SO_4 5.0 per cent	1/400	4.68×10^{-4}
$Mg\ (NO_3)_2+6$ aq. 8.8 per cent	1/1000	1.09×10^{-3}
$MgCl_2+6$ aq. 7.0 per cent	1/400	3.16×10^{-3}
$MgSO_4+7$ aq. 16.1 per cent	1/250	1.12×10^{-3}
$Ca(NO_3)_2+4$ aq. 6.5 per cent	1/500	1.95×10^{-3}
$CaCl_2+6$ aq. 6.2 per cent	1/250	5.50×10^{-3}
Dextrose	1/700	8.90×10^{-4}
Saccharose	1/700	8.71×10^{-4}

The author emphasizes the fact that salts antagonize the toxic action of strong mineral acid, H ion, just as they have long been known to do with other salts. The antagonistic action of salts toward H ions is due to the joint action of cations and anions of the salts. By change of color in the anthocyanin of the cells used, the author determined that acids enter uninjured cells very slowly, and that the effect of salts in reducing this entrance corresponds to their antitoxic effects. In cells that are killed by acids, NaCl, KCl, and KNO_3 favor the exosmose of anthocyanin, and salts of earth alkali delay it very much. Of the plasmolytic agents Mg salts proved very toxic. In $Mg(NO_3)_2$ no cells were alive after twenty-four hours, and in $MgCl_2$ and $MgSO_4$ very few. The salts of alkalis were only slightly less toxic, except for KCl, which showed many cells alive after two days. In $CaCl_2$ the cells would remain alive and plasmolyzed for a much longer time, some of them for twenty-one days. The author emphasizes the toxic action of pure salts and the balanced or non-toxic nature of mixtures of salts.—WM. CROCKER.

Soil moisture.—A new classification of soil moisture, based upon its behavior in freezing, appears to be founded upon scientific principles and to give a deeper insight into the actual condition of such water, its movement, and its relationship to plants. BOUYOUCOS[14] has found that a portion of the soil moisture freezes readily near 0° C., another portion only when a temperature of -4° C. is reached, and a third portion does not freeze at all. The first

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[13] BRENNER, W., Über die Wirkung von Neutralsalzen auf die Säureresisteng, Permeabilität und Lebensdauer der Protoplasten. Ber. Deutsch Bot. Gesells. **38**: 277–285. 1921.

[14] BOUYOUCOS, G., A new classification of soil moisture. Soil Science **11**:33–47. 1921.